Arcata Wastewater Feasibility Study — Augment AWTF Levees
Project
O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	Similar to Existing System
Total New Equipment Energy Use	kWh/year	Similar to Existing System

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr			$ -
Equipment Maintenance	capital cost/yr			$ -
Total Annual Cost at Design Flows ($/year)				$ -

Net Present Value **$ 149,954,079**

Present Worth Calculations

	Year	AWTF Levee Augmentation	Treatment System Upgrades	Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6	$ 22,424,031				$ 22,424,031	116%	$ 26,005,001	$ 21,778,779	
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10					$ -	128%	$ -	$ -	
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15		$ 20,000,000			$ 20,000,000	145%	$ 28,965,963	$ 18,592,150	Near-term treatment Improvements
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30					$ -	210%	$ -	$ -	
2056	31		$ 79,146,375			$ 79,146,375	215%	$ 170,165,242	$ 68,063,909	Treatment upgrade
2057	32					$ -	220%	$ -	$ -	
2058	33					$ -	226%	$ -	$ -	
2059	34					$ -	232%	$ -	$ -	
2060	35					$ -	237%	$ -	$ -	
2061	36					$ -	243%	$ -	$ -	
2062	37					$ -	249%	$ -	$ -	
2063	38					$ -	256%	$ -	$ -	
2064	39					$ -	262%	$ -	$ -	
2065	40					$ -	269%	$ -	$ -	
2066	41					$ -	275%	$ -	$ -	
2067	42					$ -	282%	$ -	$ -	
2068	43					$ -	289%	$ -	$ -	
2069	44					$ -	296%	$ -	$ -	
2070	45					$ -	304%	$ -	$ -	
2071	46					$ -	311%	$ -	$ -	
2072	47					$ -	319%	$ -	$ -	
2073	48					$ -	327%	$ -	$ -	
2074	49					$ -	335%	$ -	$ -	
2075	50					$ -	344%	$ -	$ -	
2076	51					$ -	352%	$ -	$ -	
2077	52					$ -	361%	$ -	$ -	

Arcata Wastewater Feasibility Study — Augment AWTF Levees

Project

O&M and 80 Year PW Cost Estimates

2078	53					$ -	370%	$ -	$ -	
2079	54					$ -	379%	$ -	$ -	
2080	55					$ -	389%	$ -	$ -	
2081	56					$ -	399%	$ -	$ -	
2082	57					$ -	409%	$ -	$ -	
2083	58					$ -	419%	$ -	$ -	
2084	59		$ 79,146,375			$ 79,146,375	429%	$ 339,734,058	$ 59,394,035	Treatment upgrade
2085	60					$ -	440%	$ -	$ -	
2086	61					$ -	451%	$ -	$ -	
2087	62					$ -	462%	$ -	$ -	
2088	63					$ -	474%	$ -	$ -	
2089	64					$ -	486%	$ -	$ -	
2090	65					$ -	498%	$ -	$ -	
2091	66					$ -	510%	$ -	$ -	
2092	67					$ -	523%	$ -	$ -	
2093	68					$ -	536%	$ -	$ -	
2094	69					$ -	549%	$ -	$ -	
2095	70					$ -	563%	$ -	$ -	
2096	71					$ -	577%	$ -	$ -	
2097	72					$ -	592%	$ -	$ -	
2098	73					$ -	607%	$ -	$ -	
2099	74					$ -	622%	$ -	$ -	
2100	75					$ -	637%	$ -	$ -	
2101	76					$ -	653%	$ -	$ -	
2102	77					$ -	669%	$ -	$ -	
2103	78					$ -	686%	$ -	$ -	
2104	79					$ -	703%	$ -	$ -	
2105	80		$ (26,382,125.00)			$ (26,382,125)	721%	$ (190,203,719)	$ (17,874,793)	Salvage Value

Arcata Wastewater Feasibility Study — AWTF Levees Living Shoreline

Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	Similar to Existing System
Total New Equipment Energy Use	kWh/year	Similar to Existing System

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr			$ -
Equipment Maintenance	capital cost/yr			$ -
Total Annual Cost at Design Flows ($/year)				$ -

Present Worth Calculations

Net Present Value

	Year	AWTF Levee Living Shoreline		Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)
2026	1					$ -	103%	$ -
2027	2					$ -	105%	$ -
2028	3					$ -	108%	$ -
2029	4					$ -	110%	$ -
2030	5					$ -	113%	$ -
2031	6					$ -	116%	$ -
2032	7					$ -	119%	$ -
2033	8					$ -	122%	$ -
2034	9					$ -	125%	$ -
2035	10	$ 14,300,000				$ 14,300,000	128%	$ 18,305,209
2036	11					$ -	131%	$ -
2037	12					$ -	134%	$ -
2038	13					$ -	138%	$ -
2039	14					$ -	141%	$ -
2040	15					$ -	145%	$ -
2041	16					$ -	148%	$ -
2042	17					$ -	152%	$ -
2043	18					$ -	156%	$ -
2044	19					$ -	160%	$ -
2045	20					$ -	164%	$ -
2046	21					$ -	168%	$ -

Arcata Wastewater Feasibility Study — Retreat Wastewater Treatment Plant
Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$13,080,000
Total New Equipment Energy Use	kWh/year	240,000

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	240,000	$0.300	$ 72,000
Equipment Maintenance	capital cost/yr	13,080,000	$0	$ 130,800
Total Annual Cost at Design Flows ($/year)				$ 202,800

Net Present Value **$ 189,825,038**

Present Worth Calculations

	Year	AWTF Levee Maintenance	NEW CAS Treatment System	Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6	$ 5,266,000				$ 5,266,000	116%	$ 6,106,946	$ 5,114,471	Conduct Levee Maintenance
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10					$ -	128%	$ -	$ -	
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30		$ 156,516,500	$ 72,000	$ 130,800	$ 156,719,300	210%	$ 328,729,323	$ 135,432,128	
2056	31			$ 72,000	$ 130,800	$ 202,800	215%	$ 436,021	$ 174,403	
2057	32			$ 72,000	$ 130,800	$ 202,800	220%	$ 446,922	$ 173,556	
2058	33			$ 72,000	$ 130,800	$ 202,800	226%	$ 458,095	$ 172,714	
2059	34			$ 72,000	$ 130,800	$ 202,800	232%	$ 469,547	$ 171,875	
2060	35			$ 72,000	$ 130,800	$ 202,800	237%	$ 481,286	$ 171,041	
2061	36			$ 72,000	$ 130,800	$ 202,800	243%	$ 493,318	$ 170,211	
2062	37			$ 72,000	$ 130,800	$ 202,800	249%	$ 505,651	$ 169,384	
2063	38			$ 72,000	$ 130,800	$ 202,800	256%	$ 518,292	$ 168,562	
2064	39			$ 72,000	$ 130,800	$ 202,800	262%	$ 531,250	$ 167,744	
2065	40			$ 72,000	$ 130,800	$ 202,800	269%	$ 544,531	$ 166,930	
2066	41			$ 72,000	$ 130,800	$ 202,800	275%	$ 558,144	$ 166,119	
2067	42			$ 72,000	$ 130,800	$ 202,800	282%	$ 572,098	$ 165,313	
2068	43			$ 72,000	$ 130,800	$ 202,800	289%	$ 586,400	$ 164,510	
2069	44			$ 72,000	$ 130,800	$ 202,800	296%	$ 601,060	$ 163,712	
2070	45			$ 72,000	$ 130,800	$ 202,800	304%	$ 616,087	$ 162,917	
2071	46			$ 72,000	$ 130,800	$ 202,800	311%	$ 631,489	$ 162,126	
2072	47			$ 72,000	$ 130,800	$ 202,800	319%	$ 647,276	$ 161,339	
2073	48			$ 72,000	$ 130,800	$ 202,800	327%	$ 663,458	$ 160,556	
2074	49			$ 72,000	$ 130,800	$ 202,800	335%	$ 680,045	$ 159,777	
2075	50			$ 72,000	$ 130,800	$ 202,800	344%	$ 697,046	$ 159,001	
2076	51			$ 72,000	$ 130,800	$ 202,800	352%	$ 714,472	$ 158,229	
2077	52			$ 72,000	$ 130,800	$ 202,800	361%	$ 732,334	$ 157,461	
2078	53			$ 72,000	$ 130,800	$ 202,800	370%	$ 750,642	$ 156,697	
2079	54			$ 72,000	$ 130,800	$ 202,800	379%	$ 769,408	$ 155,936	

Arcata Wastewater Feasibility Study — Retreat Wastewater Treatment Plant

Project

O&M and 80 Year PW Cost Estimates

2080	55			$ 72,000	$ 130,800	$ 202,800	389%	$ 788,643	$ 155,179	
2081	56			$ 72,000	$ 130,800	$ 202,800	399%	$ 808,359	$ 154,426	
2082	57			$ 72,000	$ 130,800	$ 202,800	409%	$ 828,568	$ 153,676	
2083	58			$ 72,000	$ 130,800	$ 202,800	419%	$ 849,282	$ 152,930	
2084	59		$ 79,146,375	$ 72,000	$ 130,800	$ 79,349,175	429%	$ 340,604,572	$ 59,546,223	Upgrade
2085	60			$ 72,000	$ 130,800	$ 202,800	440%	$ 892,277	$ 151,449	
2086	61			$ 72,000	$ 130,800	$ 202,800	451%	$ 914,584	$ 150,714	
2087	62			$ 72,000	$ 130,800	$ 202,800	462%	$ 937,449	$ 149,982	
2088	63			$ 72,000	$ 130,800	$ 202,800	474%	$ 960,885	$ 149,254	
2089	64			$ 72,000	$ 130,800	$ 202,800	486%	$ 984,907	$ 148,530	
2090	65			$ 72,000	$ 130,800	$ 202,800	498%	$ 1,009,530	$ 147,809	
2091	66			$ 72,000	$ 130,800	$ 202,800	510%	$ 1,034,768	$ 147,091	
2092	67			$ 72,000	$ 130,800	$ 202,800	523%	$ 1,060,637	$ 146,377	
2093	68			$ 72,000	$ 130,800	$ 202,800	536%	$ 1,087,153	$ 145,666	
2094	69			$ 72,000	$ 130,800	$ 202,800	549%	$ 1,114,332	$ 144,959	
2095	70			$ 72,000	$ 130,800	$ 202,800	563%	$ 1,142,190	$ 144,256	
2096	71			$ 72,000	$ 130,800	$ 202,800	577%	$ 1,170,745	$ 143,555	
2097	72			$ 72,000	$ 130,800	$ 202,800	592%	$ 1,200,014	$ 142,858	
2098	73			$ 72,000	$ 130,800	$ 202,800	607%	$ 1,230,014	$ 142,165	
2099	74			$ 72,000	$ 130,800	$ 202,800	622%	$ 1,260,765	$ 141,475	
2100	75			$ 72,000	$ 130,800	$ 202,800	637%	$ 1,292,284	$ 140,788	
2101	76			$ 72,000	$ 130,800	$ 202,800	653%	$ 1,324,591	$ 140,105	
2102	77			$ 72,000	$ 130,800	$ 202,800	669%	$ 1,357,706	$ 139,425	
2103	78			$ 72,000	$ 130,800	$ 202,800	686%	$ 1,391,648	$ 138,748	
2104	79			$ 72,000	$ 130,800	$ 202,800	703%	$ 1,426,439	$ 138,074	
2105	80		$ (26,382,125.00)	$ 72,000	$ 130,800	$ (26,179,325)	721%	$ (188,741,619)	$ (17,737,389)	Salvage Value

Arcata Wastewater Feasibility Study — Enhancement Marsh Maintenance and Adaptive Management

Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$0
Total New Equipment Energy Use	kWh/year	0

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	0	$0.300	$ -
Equipment Maintenance	capital cost/yr	0	1%	$ -
				$ -
Total Annual Cost at Design Flows ($/year)				$ -

Net Present Value **$ 20,337,741**

Present Worth Calculations

	Year	Enhancement Marsh Levee Maintenance	New Enahncement Marsh Levee	Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6	$ 7,315,000				$ 7,315,000	116%	$ 8,483,157	$ 7,104,511	Enhancement Marsh Maintenance
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10					$ -	128%	$ -	$ -	
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30					$ -	210%	$ -	$ -	
2056	31					$ -	215%	$ -	$ -	
2057	32					$ -	220%	$ -	$ -	
2058	33					$ -	226%	$ -	$ -	
2059	34					$ -	232%	$ -	$ -	
2060	35					$ -	237%	$ -	$ -	
2061	36					$ -	243%	$ -	$ -	
2062	37					$ -	249%	$ -	$ -	
2063	38					$ -	256%	$ -	$ -	
2064	39					$ -	262%	$ -	$ -	
2065	40					$ -	269%	$ -	$ -	
2066	41					$ -	275%	$ -	$ -	
2067	42					$ -	282%	$ -	$ -	
2068	43					$ -	289%	$ -	$ -	
2069	44					$ -	296%	$ -	$ -	
2070	45					$ -	304%	$ -	$ -	
2071	46					$ -	311%	$ -	$ -	
2072	47					$ -	319%	$ -	$ -	
2073	48					$ -	327%	$ -	$ -	
2074	49					$ -	335%	$ -	$ -	
2075	50		$ 16,878,500			$ 16,878,500	344%	$ 58,013,240	$ 13,233,231	Assume full levee augmentation would need ot occur
2076	51					$ -	352%	$ -	$ -	
2077	52					$ -	361%	$ -	$ -	
2078	53					$ -	370%	$ -	$ -	
2079	54					$ -	379%	$ -	$ -	
2080	55					$ -	389%	$ -	$ -	
2081	56					$ -	399%	$ -	$ -	
2082	57					$ -	409%	$ -	$ -	
2083	58					$ -	419%	$ -	$ -	

2084	59					$ -	429%	$ -	$ -	
2085	60					$ -	440%	$ -	$ -	
2086	61					$ -	451%	$ -	$ -	
2087	62					$ -	462%	$ -	$ -	
2088	63					$ -	474%	$ -	$ -	
2089	64					$ -	486%	$ -	$ -	
2090	65					$ -	498%	$ -	$ -	
2091	66					$ -	510%	$ -	$ -	
2092	67					$ -	523%	$ -	$ -	
2093	68					$ -	536%	$ -	$ -	
2094	69					$ -	549%	$ -	$ -	
2095	70					$ -	563%	$ -	$ -	
2096	71					$ -	577%	$ -	$ -	
2097	72					$ -	592%	$ -	$ -	
2098	73					$ -	607%	$ -	$ -	
2099	74					$ -	622%	$ -	$ -	
2100	75					$ -	637%	$ -	$ -	
2101	76					$ -	653%	$ -	$ -	
2102	77					$ -	669%	$ -	$ -	
2103	78					$ -	686%	$ -	$ -	
2104	79					$ -	703%	$ -	$ -	
2105	80		$ -			$ -	721%	$ -	$ -	Salvage Value

Arcata Wastewater Feasibility Study — Enhancement Marsh Maintenance and Adaptive Management

Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$0
Total New Equipment Energy Use	kWh/year	0

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	0	$0.300	$ -
Equipment Maintenance	capital cost/yr	0	1%	$ -
				$ -
Total Annual Cost at Design Flows ($/year)				$ -

Net Present Value **$ 20,337,741**

Present Worth Calculations

	Year	Enhancement Marsh Levee Maintenance	New Enahncement Marsh Levee	Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6	$ 7,315,000				$ 7,315,000	116%	$ 8,483,157	$ 7,104,511	Enhancement Marsh Maintenance
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10					$ -	128%	$ -	$ -	
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30					$ -	210%	$ -	$ -	
2056	31					$ -	215%	$ -	$ -	
2057	32					$ -	220%	$ -	$ -	
2058	33					$ -	226%	$ -	$ -	
2059	34					$ -	232%	$ -	$ -	
2060	35					$ -	237%	$ -	$ -	
2061	36					$ -	243%	$ -	$ -	
2062	37					$ -	249%	$ -	$ -	
2063	38					$ -	256%	$ -	$ -	
2064	39					$ -	262%	$ -	$ -	
2065	40					$ -	269%	$ -	$ -	
2066	41					$ -	275%	$ -	$ -	
2067	42					$ -	282%	$ -	$ -	
2068	43					$ -	289%	$ -	$ -	
2069	44					$ -	296%	$ -	$ -	
2070	45					$ -	304%	$ -	$ -	
2071	46					$ -	311%	$ -	$ -	
2072	47					$ -	319%	$ -	$ -	
2073	48					$ -	327%	$ -	$ -	
2074	49					$ -	335%	$ -	$ -	
2075	50		$ 16,878,500			$ 16,878,500	344%	$ 58,013,240	$ 13,233,231	Assume full levee augmentation would need ot occur
2076	51					$ -	352%	$ -	$ -	
2077	52					$ -	361%	$ -	$ -	
2078	53					$ -	370%	$ -	$ -	
2079	54					$ -	379%	$ -	$ -	
2080	55					$ -	389%	$ -	$ -	
2081	56					$ -	399%	$ -	$ -	
2082	57					$ -	409%	$ -	$ -	
2083	58					$ -	419%	$ -	$ -	

2084	59					$ -	429%	$ -	$ -	
2085	60					$ -	440%	$ -	$ -	
2086	61					$ -	451%	$ -	$ -	
2087	62					$ -	462%	$ -	$ -	
2088	63					$ -	474%	$ -	$ -	
2089	64					$ -	486%	$ -	$ -	
2090	65					$ -	498%	$ -	$ -	
2091	66					$ -	510%	$ -	$ -	
2092	67					$ -	523%	$ -	$ -	
2093	68					$ -	536%	$ -	$ -	
2094	69					$ -	549%	$ -	$ -	
2095	70					$ -	563%	$ -	$ -	
2096	71					$ -	577%	$ -	$ -	
2097	72					$ -	592%	$ -	$ -	
2098	73					$ -	607%	$ -	$ -	
2099	74					$ -	622%	$ -	$ -	
2100	75					$ -	637%	$ -	$ -	
2101	76					$ -	653%	$ -	$ -	
2102	77					$ -	669%	$ -	$ -	
2103	78					$ -	686%	$ -	$ -	
2104	79					$ -	703%	$ -	$ -	
2105	80		$ -			$ -	721%	$ -	$ -	Salvage Value

Arcata Wastewater Feasibility Study
Project

Enhancement Marsh Levee Augmentation

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$0
Total New Equipment Energy Use	kWh/year	0

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	0	$0.300	$ -
Equipment Maintenance	capital cost/yr	0	1%	$ -
				$ -
Total Annual Cost at Design Flows ($/year)				$ -

Net Present Value **$ 16,076,824**

Present Worth Calculations

	Year	New Enahncement Marsh Levee		Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6					$ -	116%	$ -	$ -	
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10	$ 16,878,500				$ 16,878,500	128%	$ 21,605,907	$ 16,076,824	Full Levee Augmentation Project Implemented
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30					$ -	210%	$ -	$ -	
2056	31					$ -	215%	$ -	$ -	
2057	32					$ -	220%	$ -	$ -	
2058	33					$ -	226%	$ -	$ -	
2059	34					$ -	232%	$ -	$ -	
2060	35					$ -	237%	$ -	$ -	
2061	36					$ -	243%	$ -	$ -	
2062	37					$ -	249%	$ -	$ -	
2063	38					$ -	256%	$ -	$ -	
2064	39					$ -	262%	$ -	$ -	
2065	40					$ -	269%	$ -	$ -	
2066	41					$ -	275%	$ -	$ -	
2067	42					$ -	282%	$ -	$ -	
2068	43					$ -	289%	$ -	$ -	
2069	44					$ -	296%	$ -	$ -	
2070	45					$ -	304%	$ -	$ -	
2071	46					$ -	311%	$ -	$ -	
2072	47					$ -	319%	$ -	$ -	
2073	48					$ -	327%	$ -	$ -	
2074	49					$ -	335%	$ -	$ -	
2075	50					$ -	344%	$ -	$ -	
2076	51					$ -	352%	$ -	$ -	
2077	52					$ -	361%	$ -	$ -	

Arcata Wastewater Feasibility Study
Project
Enhancement Marsh Levee Augmentation
O&M and 80 Year PW Cost Estimates

2078	53					$ -	370%	$ -	$ -	
2079	54					$ -	379%	$ -	$ -	
2080	55					$ -	389%	$ -	$ -	
2081	56					$ -	399%	$ -	$ -	
2082	57					$ -	409%	$ -	$ -	
2083	58					$ -	419%	$ -	$ -	
2084	59					$ -	429%	$ -	$ -	
2085	60					$ -	440%	$ -	$ -	
2086	61					$ -	451%	$ -	$ -	
2087	62					$ -	462%	$ -	$ -	
2088	63					$ -	474%	$ -	$ -	
2089	64					$ -	486%	$ -	$ -	
2090	65					$ -	498%	$ -	$ -	
2091	66					$ -	510%	$ -	$ -	
2092	67					$ -	523%	$ -	$ -	
2093	68					$ -	536%	$ -	$ -	
2094	69					$ -	549%	$ -	$ -	
2095	70					$ -	563%	$ -	$ -	
2096	71					$ -	577%	$ -	$ -	
2097	72					$ -	592%	$ -	$ -	
2098	73					$ -	607%	$ -	$ -	
2099	74					$ -	622%	$ -	$ -	
2100	75					$ -	637%	$ -	$ -	
2101	76					$ -	653%	$ -	$ -	
2102	77					$ -	669%	$ -	$ -	
2103	78					$ -	686%	$ -	$ -	
2104	79					$ -	703%	$ -	$ -	
2105	80		$ -			$ -	721%	$ -	$ -	Salvage Value

Arcata Wastewater Feasibility Study — Enhancement Marsh Levee Augmentation
Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$0
Total New Equipment Energy Use	kWh/year	0

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	0	$0.300	$ -
Equipment Maintenance	capital cost/yr	0	1%	$ -
				$ -
Total Annual Cost at Design Flows ($/year)				$ -

Net Present Value **$ 9,596,469**

Present Worth Calculations

	Year	Living Shoreline		Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6					$ -	116%	$ -	$ -	
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10	$ 10,075,000				$ 10,075,000	128%	$ 12,896,852	$ 9,596,469	Full Levee Augmentation Project Implemented
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20					$ -	164%	$ -	$ -	
2046	21					$ -	168%	$ -	$ -	
2047	22					$ -	172%	$ -	$ -	
2048	23					$ -	176%	$ -	$ -	
2049	24					$ -	181%	$ -	$ -	
2050	25					$ -	185%	$ -	$ -	
2051	26					$ -	190%	$ -	$ -	
2052	27					$ -	195%	$ -	$ -	
2053	28					$ -	200%	$ -	$ -	
2054	29					$ -	205%	$ -	$ -	
2055	30					$ -	210%	$ -	$ -	
2056	31					$ -	215%	$ -	$ -	
2057	32					$ -	220%	$ -	$ -	
2058	33					$ -	226%	$ -	$ -	
2059	34					$ -	232%	$ -	$ -	
2060	35					$ -	237%	$ -	$ -	
2061	36					$ -	243%	$ -	$ -	
2062	37					$ -	249%	$ -	$ -	
2063	38					$ -	256%	$ -	$ -	
2064	39					$ -	262%	$ -	$ -	
2065	40					$ -	269%	$ -	$ -	
2066	41					$ -	275%	$ -	$ -	
2067	42					$ -	282%	$ -	$ -	
2068	43					$ -	289%	$ -	$ -	
2069	44					$ -	296%	$ -	$ -	
2070	45					$ -	304%	$ -	$ -	
2071	46					$ -	311%	$ -	$ -	
2072	47					$ -	319%	$ -	$ -	
2073	48					$ -	327%	$ -	$ -	
2074	49					$ -	335%	$ -	$ -	
2075	50					$ -	344%	$ -	$ -	
2076	51					$ -	352%	$ -	$ -	
2077	52					$ -	361%	$ -	$ -	

Arcata Wastewater Feasibility Study — Enhancement Marsh Levee Augmentation

Project

O&M and 80 Year PW Cost Estimates

2078	53					$ -	370%	$ -	$ -	
2079	54					$ -	379%	$ -	$ -	
2080	55					$ -	389%	$ -	$ -	
2081	56					$ -	399%	$ -	$ -	
2082	57					$ -	409%	$ -	$ -	
2083	58					$ -	419%	$ -	$ -	
2084	59					$ -	429%	$ -	$ -	
2085	60					$ -	440%	$ -	$ -	
2086	61					$ -	451%	$ -	$ -	
2087	62					$ -	462%	$ -	$ -	
2088	63					$ -	474%	$ -	$ -	
2089	64					$ -	486%	$ -	$ -	
2090	65					$ -	498%	$ -	$ -	
2091	66					$ -	510%	$ -	$ -	
2092	67					$ -	523%	$ -	$ -	
2093	68					$ -	536%	$ -	$ -	
2094	69					$ -	549%	$ -	$ -	
2095	70					$ -	563%	$ -	$ -	
2096	71					$ -	577%	$ -	$ -	
2097	72					$ -	592%	$ -	$ -	
2098	73					$ -	607%	$ -	$ -	
2099	74					$ -	622%	$ -	$ -	
2100	75					$ -	637%	$ -	$ -	
2101	76					$ -	653%	$ -	$ -	
2102	77					$ -	669%	$ -	$ -	
2103	78					$ -	686%	$ -	$ -	
2104	79					$ -	703%	$ -	$ -	
2105	80		$ -			$ -	721%	$ -	$ -	Salvage Value

Arcata Wastewater Feasibility Study — New Enhancement Marsh
Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$13,000,000
Total New Equipment Energy Use	kWh/year	240,000

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	240,000	$0.300	$ 72,000
Equipment Maintenance	capital cost/yr	13,000,000	1%	$ 130,000
				$ -
Total Annual Cost at Design Flows ($/year)				$ 202,000

Net Present Value **$ 71,515,980**

Present Worth Calculations

	Year	Enhancement Marsh Levee Maintenance	New Enhancement Project	Power Costs	Pump Station Maintenance	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1					$ -	103%	$ -	$ -	
2027	2					$ -	105%	$ -	$ -	
2028	3					$ -	108%	$ -	$ -	
2029	4					$ -	110%	$ -	$ -	
2030	5					$ -	113%	$ -	$ -	
2031	6	$ 7,315,000				$ 7,315,000	116%	$ 8,483,157	$ 7,104,511	Enhancement Marsh Maintenance
2032	7					$ -	119%	$ -	$ -	
2033	8					$ -	122%	$ -	$ -	
2034	9					$ -	125%	$ -	$ -	
2035	10					$ -	128%	$ -	$ -	
2036	11					$ -	131%	$ -	$ -	
2037	12					$ -	134%	$ -	$ -	
2038	13					$ -	138%	$ -	$ -	
2039	14					$ -	141%	$ -	$ -	
2040	15					$ -	145%	$ -	$ -	
2041	16					$ -	148%	$ -	$ -	
2042	17					$ -	152%	$ -	$ -	
2043	18					$ -	156%	$ -	$ -	
2044	19					$ -	160%	$ -	$ -	
2045	20		$ 60,308,000	$ 72,000	$ 130,000	$ 60,510,000	164%	$ 99,152,681	$ 54,898,435	Install Ocean Transmission and PS
2046	21			$ 72,000	$ 130,000	$ 202,000	168%	$ 339,276	$ 182,377	
2047	22			$ 72,000	$ 130,000	$ 202,000	172%	$ 347,757	$ 181,492	
2048	23			$ 72,000	$ 130,000	$ 202,000	176%	$ 356,451	$ 180,611	
2049	24			$ 72,000	$ 130,000	$ 202,000	181%	$ 365,363	$ 179,734	
2050	25			$ 72,000	$ 130,000	$ 202,000	185%	$ 374,497	$ 178,862	
2051	26			$ 72,000	$ 130,000	$ 202,000	190%	$ 383,859	$ 177,993	
2052	27			$ 72,000	$ 130,000	$ 202,000	195%	$ 393,456	$ 177,129	
2053	28			$ 72,000	$ 130,000	$ 202,000	200%	$ 403,292	$ 176,270	
2054	29			$ 72,000	$ 130,000	$ 202,000	205%	$ 413,374	$ 175,414	
2055	30			$ 72,000	$ 130,000	$ 202,000	210%	$ 423,709	$ 174,562	
2056	31			$ 72,000	$ 130,000	$ 202,000	215%	$ 434,301	$ 173,715	
2057	32			$ 72,000	$ 130,000	$ 202,000	220%	$ 445,159	$ 172,872	
2058	33			$ 72,000	$ 130,000	$ 202,000	226%	$ 456,288	$ 172,033	
2059	34			$ 72,000	$ 130,000	$ 202,000	232%	$ 467,695	$ 171,197	
2060	35			$ 72,000	$ 130,000	$ 202,000	237%	$ 479,387	$ 170,366	
2061	36			$ 72,000	$ 130,000	$ 202,000	243%	$ 491,372	$ 169,539	
2062	37			$ 72,000	$ 130,000	$ 202,000	249%	$ 503,656	$ 168,716	
2063	38			$ 72,000	$ 130,000	$ 202,000	256%	$ 516,248	$ 167,897	
2064	39			$ 72,000	$ 130,000	$ 202,000	262%	$ 529,154	$ 167,082	
2065	40			$ 72,000	$ 130,000	$ 202,000	269%	$ 542,383	$ 166,271	
2066	41			$ 72,000	$ 130,000	$ 202,000	275%	$ 555,942	$ 165,464	
2067	42			$ 72,000	$ 130,000	$ 202,000	282%	$ 569,841	$ 164,661	
2068	43			$ 72,000	$ 130,000	$ 202,000	289%	$ 584,087	$ 163,861	
2069	44			$ 72,000	$ 130,000	$ 202,000	296%	$ 598,689	$ 163,066	
2070	45			$ 72,000	$ 130,000	$ 202,000	304%	$ 613,656	$ 162,274	
2071	46			$ 72,000	$ 130,000	$ 202,000	311%	$ 628,998	$ 161,487	
2072	47			$ 72,000	$ 130,000	$ 202,000	319%	$ 644,723	$ 160,703	
2073	48			$ 72,000	$ 130,000	$ 202,000	327%	$ 660,841	$ 159,923	
2074	49			$ 72,000	$ 130,000	$ 202,000	335%	$ 677,362	$ 159,146	
2075	50			$ 72,000	$ 130,000	$ 202,000	344%	$ 694,296	$ 158,374	
2076	51			$ 72,000	$ 130,000	$ 202,000	352%	$ 711,653	$ 157,605	

Arcata Wastewater Feasibility Study — New Enhancement Marsh
Project
O&M and 80 Year PW Cost Estimates

2077	52			$ 72,000	$ 130,000	$ 202,000	361%	$ 729,445	$ 156,840	
2078	53			$ 72,000	$ 130,000	$ 202,000	370%	$ 747,681	$ 156,079	
2079	54			$ 72,000	$ 130,000	$ 202,000	379%	$ 766,373	$ 155,321	
2080	55			$ 72,000	$ 130,000	$ 202,000	389%	$ 785,532	$ 154,567	
2081	56			$ 72,000	$ 130,000	$ 202,000	399%	$ 805,170	$ 153,817	
2082	57			$ 72,000	$ 130,000	$ 202,000	409%	$ 825,300	$ 153,070	
2083	58			$ 72,000	$ 130,000	$ 202,000	419%	$ 845,932	$ 152,327	
2084	59			$ 72,000	$ 130,000	$ 202,000	429%	$ 867,081	$ 151,587	
2085	60			$ 72,000	$ 130,000	$ 202,000	440%	$ 888,758	$ 150,852	
2086	61			$ 72,000	$ 130,000	$ 202,000	451%	$ 910,976	$ 150,119	
2087	62			$ 72,000	$ 130,000	$ 202,000	462%	$ 933,751	$ 149,391	
2088	63			$ 72,000	$ 130,000	$ 202,000	474%	$ 957,095	$ 148,665	
2089	64			$ 72,000	$ 130,000	$ 202,000	486%	$ 981,022	$ 147,944	
2090	65			$ 72,000	$ 130,000	$ 202,000	498%	$ 1,005,548	$ 147,225	
2091	66			$ 72,000	$ 130,000	$ 202,000	510%	$ 1,030,686	$ 146,511	
2092	67			$ 72,000	$ 130,000	$ 202,000	523%	$ 1,056,453	$ 145,800	
2093	68			$ 72,000	$ 130,000	$ 202,000	536%	$ 1,082,865	$ 145,092	
2094	69			$ 72,000	$ 130,000	$ 202,000	549%	$ 1,109,936	$ 144,387	
2095	70			$ 72,000	$ 130,000	$ 202,000	563%	$ 1,137,685	$ 143,687	
2096	71			$ 72,000	$ 130,000	$ 202,000	577%	$ 1,166,127	$ 142,989	
2097	72			$ 72,000	$ 130,000	$ 202,000	592%	$ 1,195,280	$ 142,295	
2098	73			$ 72,000	$ 130,000	$ 202,000	607%	$ 1,225,162	$ 141,604	
2099	74			$ 72,000	$ 130,000	$ 202,000	622%	$ 1,255,791	$ 140,917	
2100	75			$ 72,000	$ 130,000	$ 202,000	637%	$ 1,287,186	$ 140,233	
2101	76			$ 72,000	$ 130,000	$ 202,000	653%	$ 1,319,366	$ 139,552	
2102	77			$ 72,000	$ 130,000	$ 202,000	669%	$ 1,352,350	$ 138,875	
2103	78			$ 72,000	$ 130,000	$ 202,000	686%	$ 1,386,158	$ 138,200	
2104	79			$ 72,000	$ 130,000	$ 202,000	703%	$ 1,420,812	$ 137,530	
2105	80		$ -	$ 72,000	$ 130,000	$ 202,000	721%	$ 1,456,333	$ 136,862	Salvage Value

Arcata Wastewater Feasibility Study — Ocean Discharge Strategy
Project

O&M and 80 Year PW Cost Estimates

Global Parameters

Item	Units	Value
Electricity	$/kWh	$0.30
General Equipment Maintenance	% eq. cost/yr	1%
Inflation Rate	%	2.50%
Nominal Discount Rate	%	3.00%

Parameter Input
Alternative input
Calculated value

Alternative-Specific Inputs

Parameter	Units	Value
Treatment System Operations		Similar to Existing System
Treatment System Maintenance		Similar to Existing System
Total New Equipment Cost	capital cost	$15,000,000
Total New Equipment Energy Use	kWh/year	486,000

Annual Costs

Parameter	Unit	Value	Unit Cost	Annual cost
Electricity	kWh/yr	486,000	$0.300	$ 145,800
Equipment Maintenance	capital cost/yr	15,000,000	1%	$ 150,000
HBHRCD Outfall Service Fee	$/ year	$1	$ 200,000.00	$ 200,000
Total Annual Cost at Design Flows ($/year)				$ 495,800

Net Present Value **$ 114,660,734**

Present Worth Calculations

	Year	Enhancement Marsh Levee Maintenance	New Tramission Main and Punp Station	Power Costs	Pump Station Maintenance	Outfall Use Fees	Net Annual Cost, $/Year	Inflation Factor	Net Annual Costs (with inflation)	Present Worth (2023 USD)	Notes
2026	1						$ -	103%	$ -	$ -	
2027	2						$ -	105%	$ -	$ -	
2028	3						$ -	108%	$ -	$ -	
2029	4						$ -	110%	$ -	$ -	
2030	5						$ -	113%	$ -	$ -	
2031	6	$ 7,315,000					$ 7,315,000	116%	$ 8,483,157	$ 7,104,511	Enhancement Marsh Maintenance
2032	7						$ -	119%	$ -	$ -	
2033	8						$ -	122%	$ -	$ -	
2034	9						$ -	125%	$ -	$ -	
2035	10						$ -	128%	$ -	$ -	
2036	11						$ -	131%	$ -	$ -	
2037	12						$ -	134%	$ -	$ -	
2038	13						$ -	138%	$ -	$ -	
2039	14						$ -	141%	$ -	$ -	
2040	15						$ -	145%	$ -	$ -	
2041	16						$ -	148%	$ -	$ -	
2042	17						$ -	152%	$ -	$ -	
2043	18						$ -	156%	$ -	$ -	
2044	19						$ -	160%	$ -	$ -	
2045	20		$ 92,318,500	$ 145,800	$ 150,000	$ 200,000	$ 92,814,300	164%	$ 152,087,038	$ 84,206,905	Install Ocean Transmission and PS
2046	21			$ 145,800	$ 150,000	$ 200,000	$ 495,800	168%	$ 832,737	$ 447,637	
2047	22			$ 145,800	$ 150,000	$ 200,000	$ 495,800	172%	$ 853,555	$ 445,464	
2048	23			$ 145,800	$ 150,000	$ 200,000	$ 495,800	176%	$ 874,894	$ 443,302	
2049	24			$ 145,800	$ 150,000	$ 200,000	$ 495,800	181%	$ 896,766	$ 441,150	
2050	25			$ 145,800	$ 150,000	$ 200,000	$ 495,800	185%	$ 919,185	$ 439,008	
2051	26			$ 145,800	$ 150,000	$ 200,000	$ 495,800	190%	$ 942,165	$ 436,877	
2052	27			$ 145,800	$ 150,000	$ 200,000	$ 495,800	195%	$ 965,719	$ 434,756	
2053	28			$ 145,800	$ 150,000	$ 200,000	$ 495,800	200%	$ 989,862	$ 432,646	
2054	29			$ 145,800	$ 150,000	$ 200,000	$ 495,800	205%	$ 1,014,609	$ 430,546	
2055	30			$ 145,800	$ 150,000	$ 200,000	$ 495,800	210%	$ 1,039,974	$ 428,456	
2056	31			$ 145,800	$ 150,000	$ 200,000	$ 495,800	215%	$ 1,065,973	$ 426,376	
2057	32			$ 145,800	$ 150,000	$ 200,000	$ 495,800	220%	$ 1,092,623	$ 424,306	
2058	33			$ 145,800	$ 150,000	$ 200,000	$ 495,800	226%	$ 1,119,938	$ 422,246	
2059	34			$ 145,800	$ 150,000	$ 200,000	$ 495,800	232%	$ 1,147,937	$ 420,196	
2060	35			$ 145,800	$ 150,000	$ 200,000	$ 495,800	237%	$ 1,176,635	$ 418,157	
2061	36			$ 145,800	$ 150,000	$ 200,000	$ 495,800	243%	$ 1,206,051	$ 416,127	
2062	37			$ 145,800	$ 150,000	$ 200,000	$ 495,800	249%	$ 1,236,202	$ 414,107	
2063	38			$ 145,800	$ 150,000	$ 200,000	$ 495,800	256%	$ 1,267,107	$ 412,096	
2064	39			$ 145,800	$ 150,000	$ 200,000	$ 495,800	262%	$ 1,298,785	$ 410,096	
2065	40			$ 145,800	$ 150,000	$ 200,000	$ 495,800	269%	$ 1,331,255	$ 408,105	
2066	41			$ 145,800	$ 150,000	$ 200,000	$ 495,800	275%	$ 1,364,536	$ 406,124	
2067	42			$ 145,800	$ 150,000	$ 200,000	$ 495,800	282%	$ 1,398,649	$ 404,153	
2068	43			$ 145,800	$ 150,000	$ 200,000	$ 495,800	289%	$ 1,433,616	$ 402,191	
2069	44			$ 145,800	$ 150,000	$ 200,000	$ 495,800	296%	$ 1,469,456	$ 400,238	
2070	45			$ 145,800	$ 150,000	$ 200,000	$ 495,800	304%	$ 1,506,192	$ 398,295	
2071	46			$ 145,800	$ 150,000	$ 200,000	$ 495,800	311%	$ 1,543,847	$ 396,362	
2072	47			$ 145,800	$ 150,000	$ 200,000	$ 495,800	319%	$ 1,582,443	$ 394,438	
2073	48			$ 145,800	$ 150,000	$ 200,000	$ 495,800	327%	$ 1,622,005	$ 392,523	
2074	49			$ 145,800	$ 150,000	$ 200,000	$ 495,800	335%	$ 1,662,555	$ 390,618	
2075	50			$ 145,800	$ 150,000	$ 200,000	$ 495,800	344%	$ 1,704,119	$ 388,721	
2076	51			$ 145,800	$ 150,000	$ 200,000	$ 495,800	352%	$ 1,746,721	$ 386,834	
2077	52			$ 145,800	$ 150,000	$ 200,000	$ 495,800	361%	$ 1,790,390	$ 384,957	
2078	53			$ 145,800	$ 150,000	$ 200,000	$ 495,800	370%	$ 1,835,149	$ 383,088	
2079	54			$ 145,800	$ 150,000	$ 200,000	$ 495,800	379%	$ 1,881,028	$ 381,228	
2080	55			$ 145,800	$ 150,000	$ 200,000	$ 495,800	389%	$ 1,928,054	$ 379,378	
2081	56			$ 145,800	$ 150,000	$ 200,000	$ 495,800	399%	$ 1,976,255	$ 377,536	
2082	57			$ 145,800	$ 150,000	$ 200,000	$ 495,800	409%	$ 2,025,661	$ 375,703	
2083	58			$ 145,800	$ 150,000	$ 200,000	$ 495,800	419%	$ 2,076,303	$ 373,880	
2084	59			$ 145,800	$ 150,000	$ 200,000	$ 495,800	429%	$ 2,128,210	$ 372,065	
2085	60			$ 145,800	$ 150,000	$ 200,000	$ 495,800	440%	$ 2,181,416	$ 370,258	

2086	61			$ 145,800	$ 150,000	$ 200,000	$ 495,800	451%	$ 2,235,951	$ 368,461	
2087	62			$ 145,800	$ 150,000	$ 200,000	$ 495,800	462%	$ 2,291,850	$ 366,672	
2088	63			$ 145,800	$ 150,000	$ 200,000	$ 495,800	474%	$ 2,349,146	$ 364,892	
2089	64			$ 145,800	$ 150,000	$ 200,000	$ 495,800	486%	$ 2,407,875	$ 363,121	
2090	65			$ 145,800	$ 150,000	$ 200,000	$ 495,800	498%	$ 2,468,072	$ 361,358	
2091	66			$ 145,800	$ 150,000	$ 200,000	$ 495,800	510%	$ 2,529,773	$ 359,604	
2092	67			$ 145,800	$ 150,000	$ 200,000	$ 495,800	523%	$ 2,593,018	$ 357,859	
2093	68			$ 145,800	$ 150,000	$ 200,000	$ 495,800	536%	$ 2,657,843	$ 356,121	
2094	69			$ 145,800	$ 150,000	$ 200,000	$ 495,800	549%	$ 2,724,289	$ 354,393	
2095	70			$ 145,800	$ 150,000	$ 200,000	$ 495,800	563%	$ 2,792,397	$ 352,672	
2096	71			$ 145,800	$ 150,000	$ 200,000	$ 495,800	577%	$ 2,862,207	$ 350,960	
2097	72			$ 145,800	$ 150,000	$ 200,000	$ 495,800	592%	$ 2,933,762	$ 349,257	
2098	73			$ 145,800	$ 150,000	$ 200,000	$ 495,800	607%	$ 3,007,106	$ 347,561	
2099	74			$ 145,800	$ 150,000	$ 200,000	$ 495,800	622%	$ 3,082,283	$ 345,874	
2100	75			$ 145,800	$ 150,000	$ 200,000	$ 495,800	637%	$ 3,159,340	$ 344,195	
2101	76			$ 145,800	$ 150,000	$ 200,000	$ 495,800	653%	$ 3,238,324	$ 342,524	
2102	77			$ 145,800	$ 150,000	$ 200,000	$ 495,800	669%	$ 3,319,282	$ 340,861	
2103	78			$ 145,800	$ 150,000	$ 200,000	$ 495,800	686%	$ 3,402,264	$ 339,207	
2104	79			$ 145,800	$ 150,000	$ 200,000	$ 495,800	703%	$ 3,487,321	$ 337,560	
2105	80		$ -	$ 145,800	$ 150,000	$ 200,000	$ 495,800	721%	$ 3,574,504	$ 335,921	Salvage Value